



## IHE Standards based, Open Source, Health Information Exchange

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**Misys Open Source Solutions “MOSS” – Healthcare**

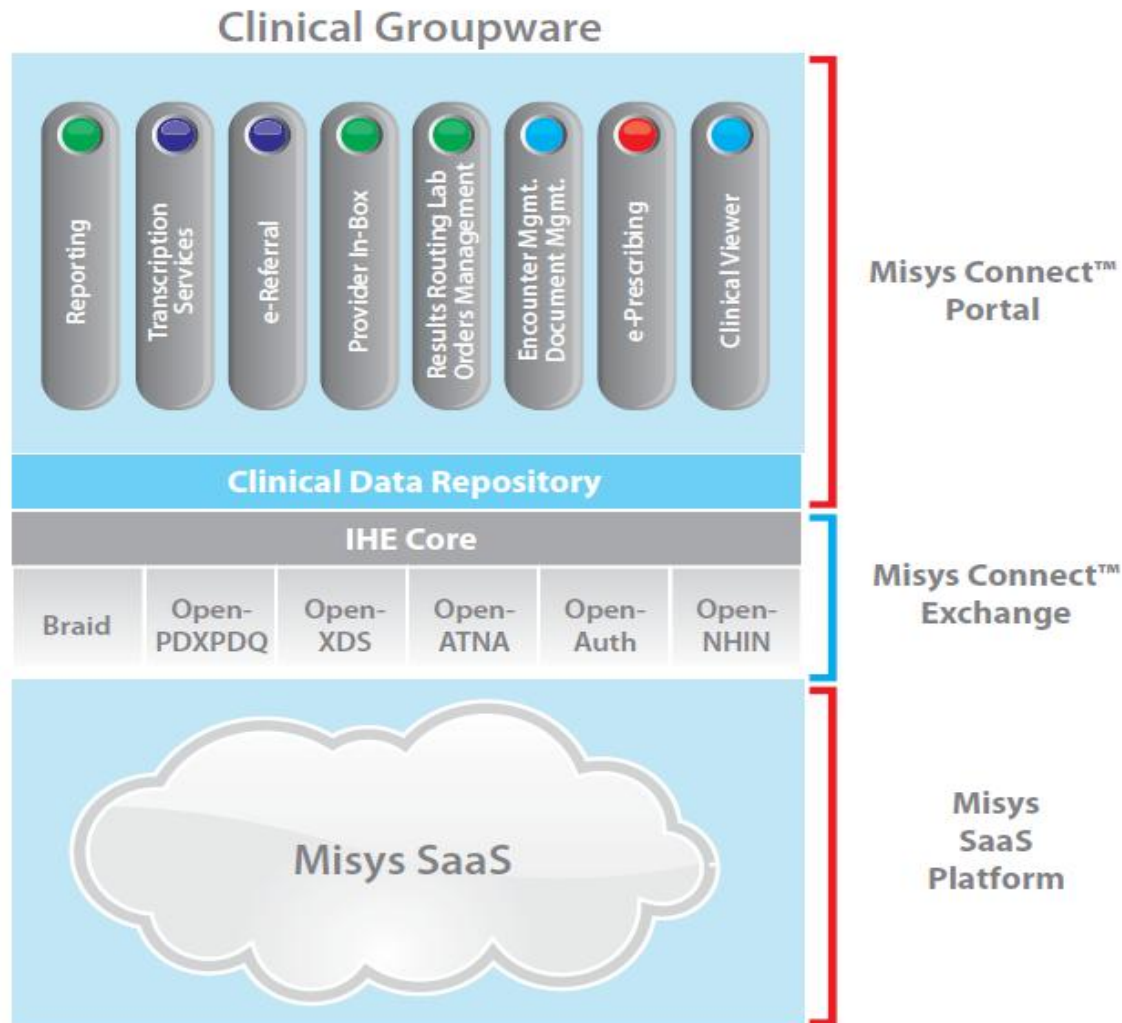
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- **MOSS Solution Description**
  - **MOSS Use Case**
  - **MOSS Architecture**
  - **MOSS Demo**

*A Service Oriented Architecture (SOA) compliant, open source, standards-based core infrastructure that provides a framework for the creation of a*

***Heath Information Exchange.***

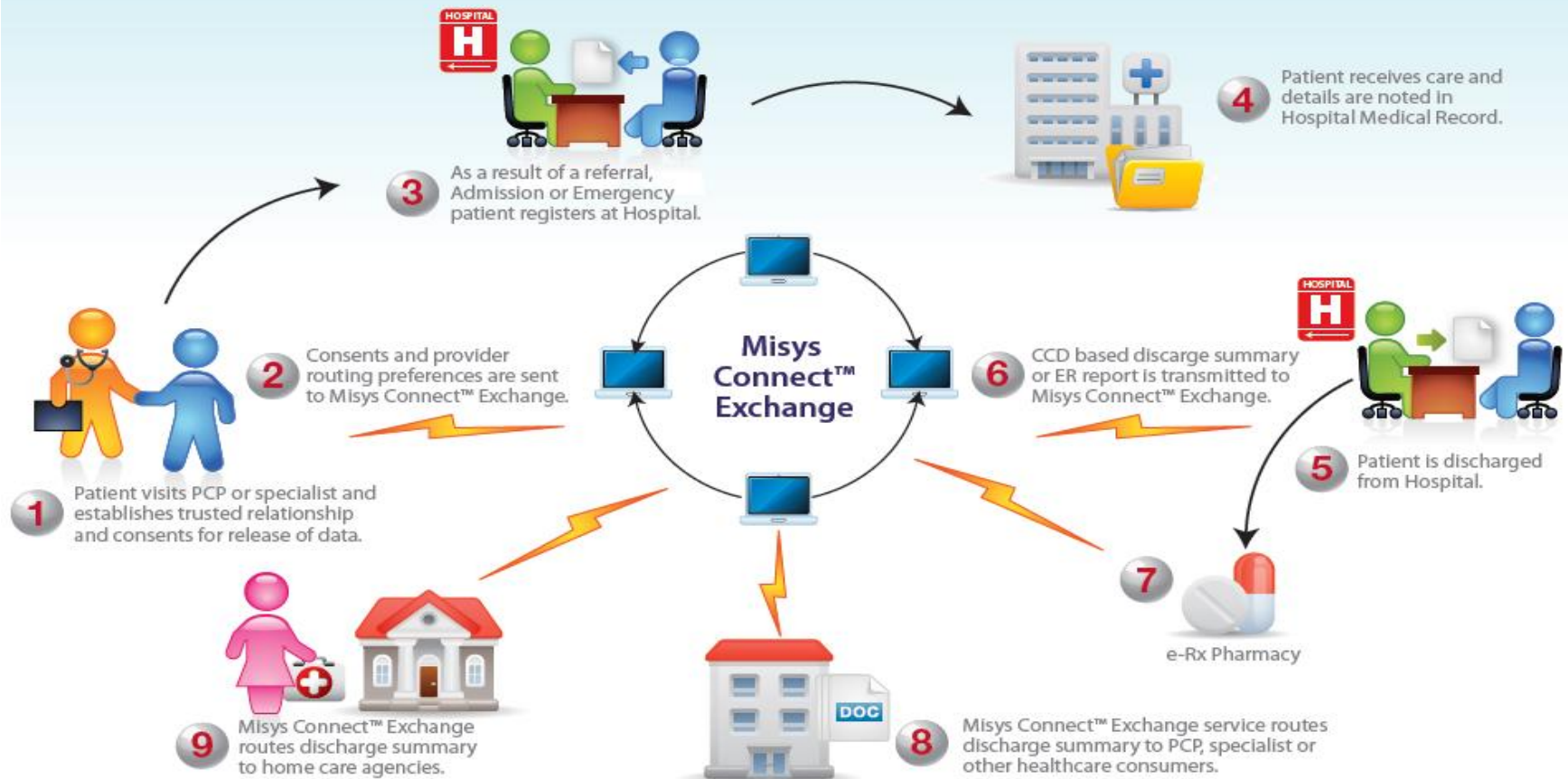
*This framework would allow mashable, value-added application portlets to be joined together to create new extensible applications.*

# MOSS – Roadmap

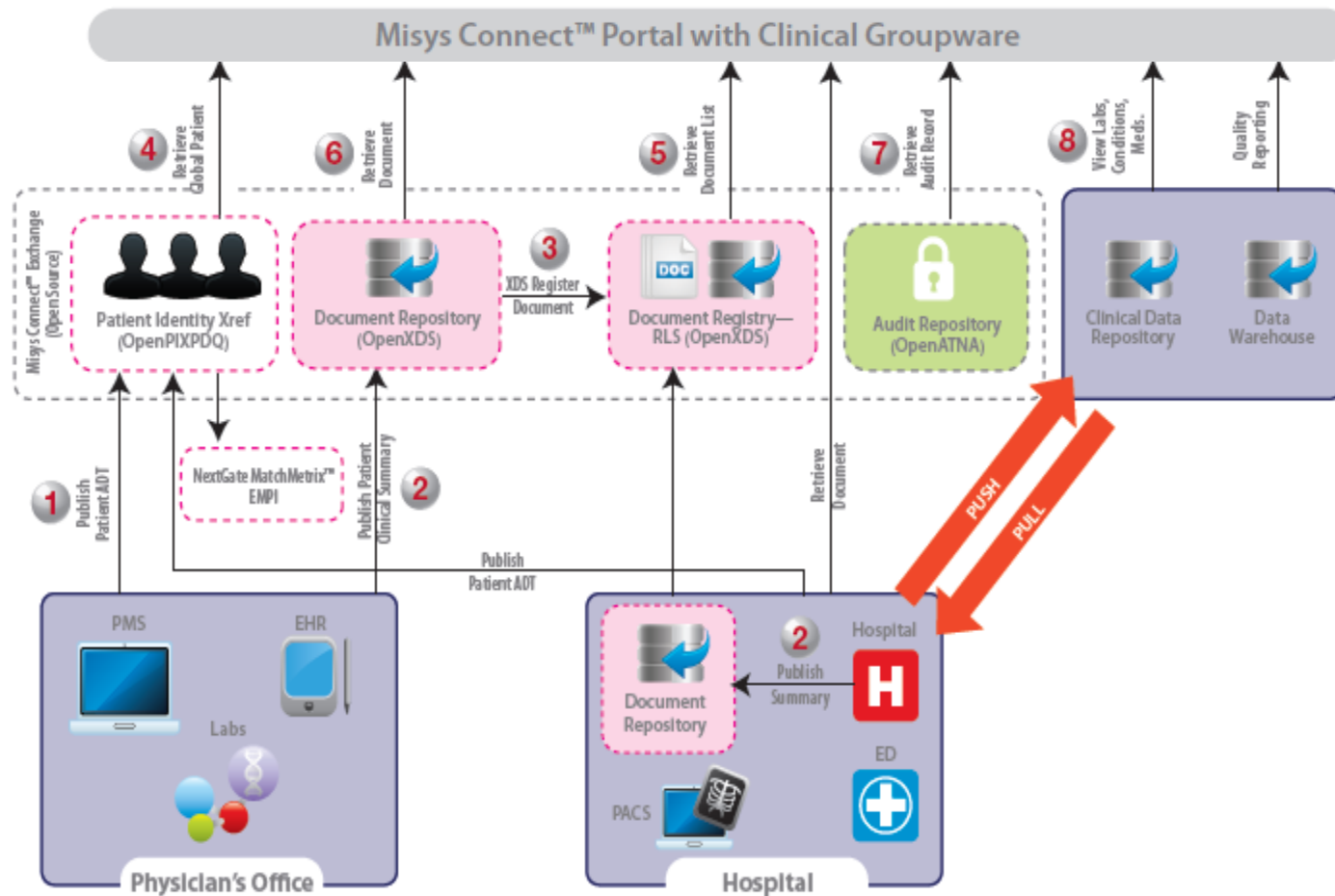


## Clinical Document Exchange

Use Case: Send/Push/Route Hospital Data to Healthcare Consumers



# Typical IHE based HIE (Hybrid Model)





Code for Healthcare Innovation



**ATKINSON, GENE**
**DOB: 01-03-1945**
**Age: 65Y 1M**
**Gender: Male**
**Phone:**

Close Patient

Clinical Console

Patient Consent

ePrescribe

eReferral

Audit Report

**Patient Search**

Name

at\*

Search

Clear Results

Name	DOB	Age	G	Phone	SSN
ATKINSON, GENE	01-03-1945	65Y 1M	M		x2235

**Clinical Documents**

Date	Document Type	Author	Organization
08-11-2009 17:28:39	Discharge Summary	Dr. Henry Hartley	Hartford Hospital
08-07-2009 13:25:31	ED Referral Note	Dr. Paul Primary	Prohealth Physicians
08-02-2009 08:29:21	ED Encounter Record	Dr. Deb Cardio	Hartford Hospital
08-02-2009 08:29:21	EKG(Scanned PDF)	Dr. Deb Cardio	Hartford Hospital

**Medication Orders**

Order Date	Medication	Provider	Status
08-11-2009 00:00	Atenolol	Dr. Henry Hartley	Active
08-11-2009 00:00	Simvastatin	Dr. Henry Hartley	Active
02-02-2009 00:00	Aspirin	Dr. Henry Hartley	Active
02-02-2009 00:00	Atenolol	Dr. Henry Hartley	Inactive
02-02-2009 00:00	Dilaudid	Dr. Henry Hartley	Inactive

Click maximize button to view additional medication details and search by specific date range

1

2

**Lab Tests**

Date/Time	Lab Test	Provider
08-09-2009 00:00	Chem 7	Dr. Henry Hartley
08-09-2009 00:00	PT-INR	Dr. Henry Hartley
02-02-2009 00:00	CBC WITH AUTO DIFF	Dr. Henry Hartley
02-02-2009 00:00	Cardiac Enzymes	Dr. Henry Hartley
02-02-2009 00:00	Cholesterol	Dr. Henry Hartley

Click maximize button to view additional lab test details and search by specific date range

**Allergies**

Date/Time	Allergy
03-14-2007 00:00	Penicillin

Click maximize button to view additional allergy details and search by specific date range

**Problems**

Date/Time	Problem
08-07-2009 00:00	Acute Myocardial Infarction
08-07-2009 00:00	Cardiovascular Collapse
08-07-2009 00:00	Atypical Chest Pain



experience, solutions, results



Backup

Practice  
Management  
Market

Wave

1

Enhance the  
effectiveness of the  
practice

Electronic  
Health Record  
Market

Wave

2

Enhance the efficiency and  
quality of the visit

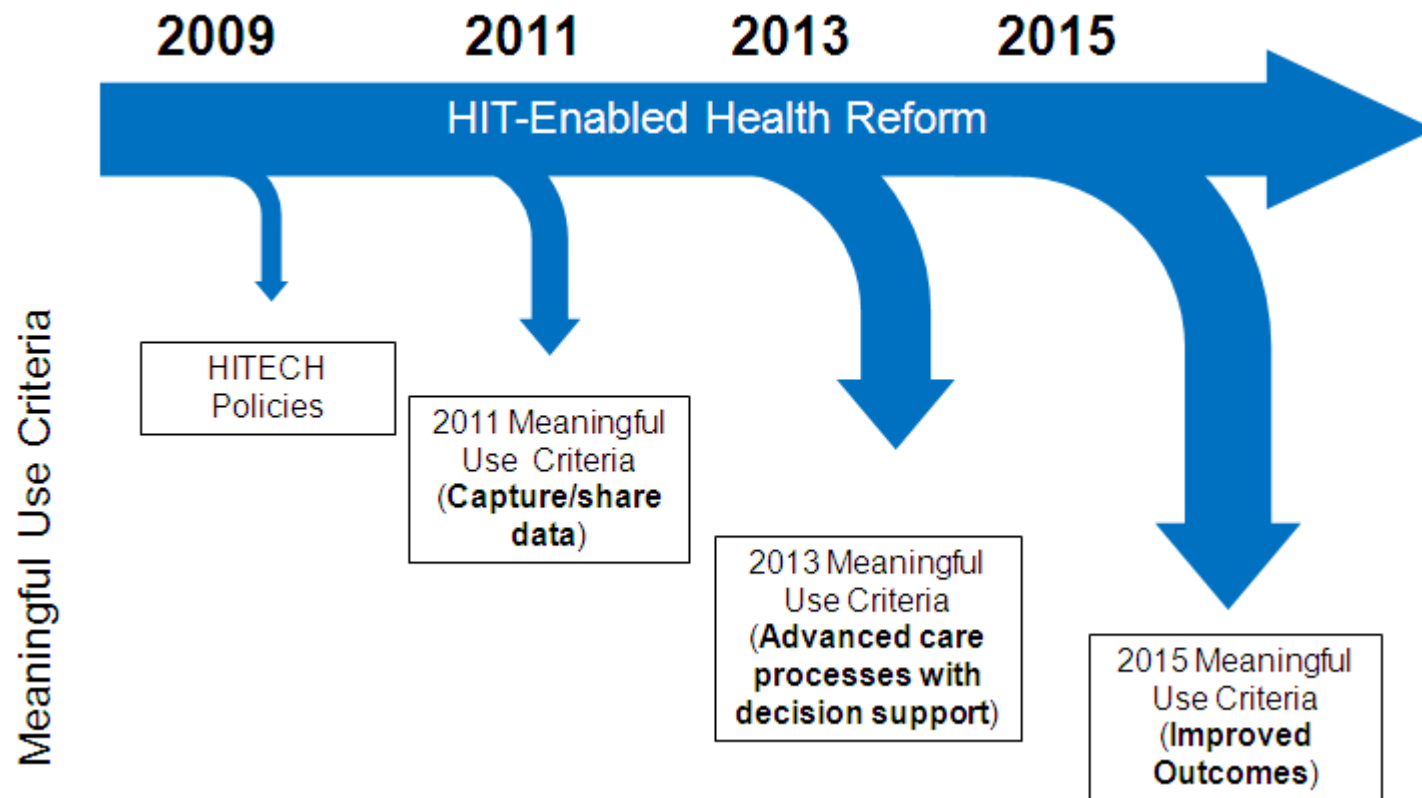
Connectivity  
and  
Information  
Market

Wave

3

Enhance the health of  
patients, community, and  
the care delivery  
organizations bottom line

# Achieving Meaningful Use

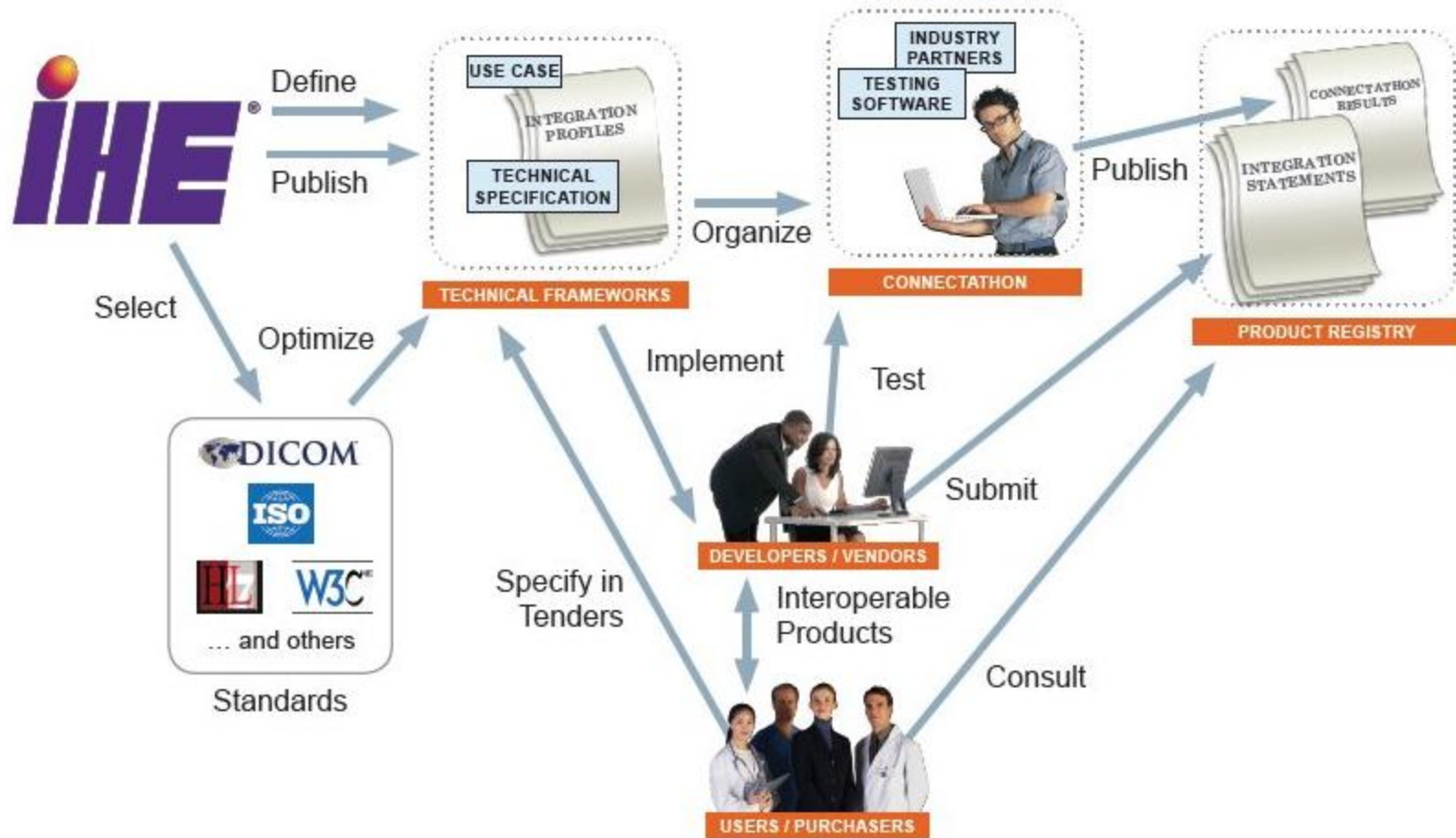


# What is IHE?

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- Integrating the Healthcare Enterprise ([www.ihe.net](http://www.ihe.net))
- Designed to advance the state of data integration in healthcare through standards based interoperability
- Doesn't create new standards, promotes adoption of standards (HITSP, HL7, CCD, WS, SAML, SSL, DICOM etc)
- Provides a common standards based framework for seamless exchange of information
  - Resolves critical interoperability issues related to information access for care providers and patients, clinical workflow, security, administration and information infrastructure
- More than 250 vendors worldwide have implemented and tested products with IHE capabilities

# How it operates?



Source: [www.ihe.net](http://www.ihe.net)

# What profiles apply (Technical profiles)?

## MOSS Open Source Platform Includes ALL Core Components

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- Cross-reference patients from various systems

- How do I know if my patient is registered with any other systems in the community?
- If so, what is the unique ID of my patient in the respective systems?

### Patient Identifier Cross-reference (PIX)

- Query for a patient

- Which patients match the given set of demographics?
- Return me list of all matched patients from the community

### Patient Demographics Query (PDQ)

- Sharing patient clinical information

- How do I find the clinical information available for my patient from other providers?
- How do I share information about my patient to other providers in the community?

### Cross Enterprise Document Sharing (XDS.b)

- Patient Consent

- How does the clinical information gets published considering patient consent?
- How does the system enforce access controls based on confidentiality codes?

### Basic Patient Privacy Consents (BPPC)

- Secure environment for sharing patient clinical information

- Can I trust the system that is requesting information for my patient?
- How can I trust the validity of my patient information in other systems?
- How do I track who accessed my patient information and when?

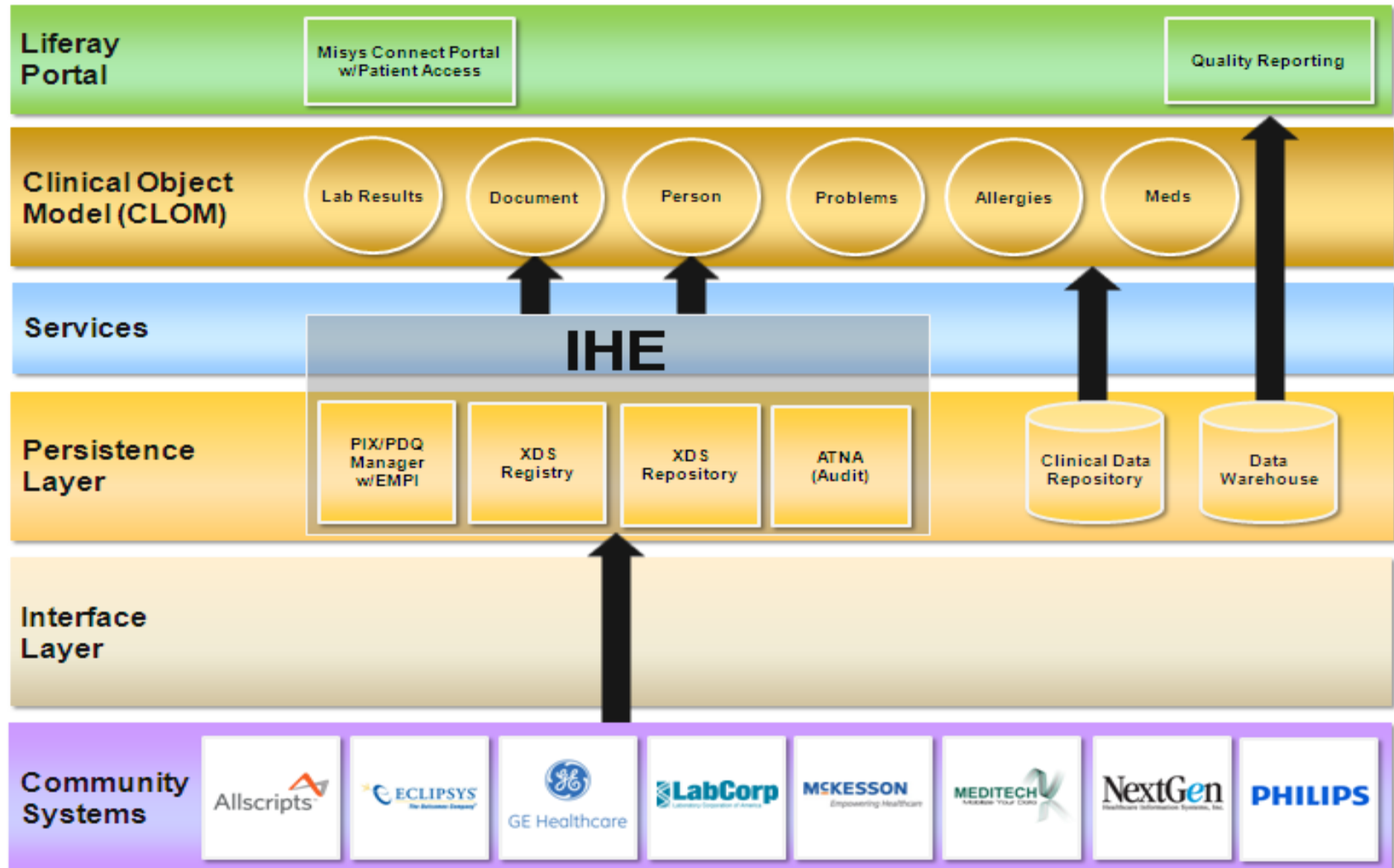
### Audit Trail and Node Authentication (ATNA)

# Drivers for Health Information Exchange

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- **Improve Quality of Healthcare**
- **Improve Patient Safety**
  - Get critical information to the right provider at the right time
- **Increased attention for HIE at national level (NHIN)**
- **Reduce Health Costs**
  - Rand Study and others
- **Public Health Surveillance requirements**

# MOSS Community Solution - Overview





# MOSS - An Open Architecture

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- MOSS HIE is based on IHE specifications
- All of core components used in MOSS HIE are Open Source (OpenPIXPDQ, OpenXDS with XCA, OpenATNA, OpenAuth)
- All the specifications are based on open standards that are freely available and implemented by a wide range of industry vendors
- The MOSS HIE does not require a proprietary network and can operate on the public Internet (though it is not limited to this)
- MOSS HIE is platform agnostic, can be implemented on any operating system – Windows, Linux etc.

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■ **Misys Connect™ Portal aggregates patient oriented demographic and health information in order to provide health information exchange services. Key features include**

- Patient Consent Management
- Patient Search using OpenPIXPDQ
- Patient Longitudinal Health Record display using OpenXDS
- e-Prescribe integration with SSO and Patient Context
- Electronic Referral Management with SSO and Patient Context
- Security and Auditing
- System Monitoring
- Discrete Data display including lab results, medications, allergies, problems and conditions

■ **Scalable, multi-tiered security model**

- Uses Role Based Access and assigns authorizations for controlling flow of information with-in and across systems
- Supports organizational policies and procedures
- Transmission Security
- Auditing

